

Plasmid-mediated quinolones resistance in clinically important bacteria

M. Omidvar Panah¹, M. Najafi¹, A. Peymani¹

¹ Medical Microbiology Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

Corresponding Address: Amir Peymani, Medical Microbiology Research Center, Velayat Hospital, Qazvin University of Medical Sciences, Qazvin, Iran

Tel: +98-28-33324971, Email: a.peymani@gmail.com

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*Abstract

Quinolones are synthetic and commonly used antibiotics for treatment of multiple clinical infections in the world. Quinolones are clinically important antibiotics, as an ideal component, because of high potency, broad-spectrum activity, good bioavailability and a potentially low incidence of side-effects. These antibiotics are not originated from biological source. In addition to chromosomal mutations in the target genes which confer resistance to these antibiotics, in recent years, plasmids-mediated quinolone resistance (PMQR) have made difficult to treat infections caused by resistant organisms. PMQR plays a very important role in resistance to these antibiotics due to the rapid spread between the bacteria. So far, three types of PMQR have been identified, including the *aac(6')-Ib-cr*, the *qepA* efflux pump and the *qnr* proteins. In this research, the role of *qnr* proteins in the development of drug resistance to the quinolone compounds has been studied.

Keywords: Quinolone, Drug resistance, Qnr protein

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